



## Program Specification

<b>Program Name:</b> Bachelor of Physics (B.Sc. Physics)
<b>Qualification Level :</b> Bachelor Program (Level 6)
<b>Department:</b> Physics
<b>College:</b> Science
<b>Institution:</b> Jouf University (JU)

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## A. Program Identification and General Information

### 1. Program Main Location:

- **Main Campus – Sakaka, Jouf University**
- **Laqat Campus (Female) – Sakaka, Jouf University**



### 2. Branches Offering the Program:

N/A

### 3. Reasons for Establishing the Program:

(Economic, social, cultural, and technological reasons, and national needs and development, etc.)

#### ✚ Program approval document

Physics Department at Jouf University was established as per the decree of [The Council of Higher Education, No 8/5/1423H, dated 12/8/2002 corresponding to 23/3/1423H.](#)

#### ✚ Reasons for Establishing the Program

##### ➤ National needs and development

1. Graduating cadres specialized in physics and its applications able to contribute achieving the Kingdom's 2030 vision.
2. Improving the quality of the students how will continue their studies outside KSA.
3. Reducing expatriate labor in the field of physics and relying on national talent.

##### ➤ Social Reasons

1. Reuniting families and reducing students travel for physics study in national universities.

##### ➤ Economic & technological Reasons

1. Providing graduates in physics with the practical skills necessary for them to enter the workforce.

### 4. Total Credit Hours for Completing the Program: (135 Credit Hours)



### 5. Professional Occupations/Jobs:

For graduates of physics programs, there are numerous employment opportunities, including these:

- ✓ Ministry of Energy, Industry and Mineral Resources.
- ✓ Ministry of Communications and Information Technology.
- ✓ Ministry of Water and Electricity.
- ✓ Ministry of Environment, Water and Agriculture.
- ✓ Ministry of Defense.

- ✓ Rentable Energies Research Centers.
- ✓ Companies and Factories specialized in the industry and development of Materials and Nanotechnology.
- ✓ Companies specialized in the field of electronics and Maintenance of electric Instruments and Equipment.
- ✓ Radiation Protection and Curing Centers, Operation and Maintenance of Medical Equipment.
- ✓ Saudi Standards, Metrology, and Quality Organization
- ✓ Modeling and Simulation Center in Industry and Scientific Experiments.
- ✓ Astronomical Observatories and Meteorology Centers.
- ✓ Ministry of Education.

<b>6. Major Tracks/Pathways</b> (if any):		
<b>Major track/pathway</b>	<b>Credit hours</b> (For each track)	<b>Professional Occupations/Jobs</b> (For each track)
NA		
<b>7. Intermediate Exit Points/Awarded Degree</b> (if any):		
<b>Intermediate exit points/awarded degree</b>	<b>Credit hours</b>	
NA		

## B. Mission, Goals, and Learning Outcomes

<b>1. Program Mission:</b>				
<u>Preparing educationally qualified graduates and contributing to scientific research in the field of physics and its applications to serve and develop society.</u>				
<b>2. Program Goals:</b>				
<ul style="list-style-type: none"> <li>▪ Providing educational outcomes compatible with academic accreditation.</li> <li>▪ Providing a distinguished academic environment in the teaching field of physics.</li> <li>▪ Preparing scientifically qualified graduates in the field of physics and its applications to meet the needs of the labor market.</li> <li>▪ Providing consultations in the field of physics to serve the community.</li> <li>▪ Providing distinguished scientific and applied research in the field of physics.</li> </ul>				
<b>3. Relationship between Program Mission and Goals and the Mission and Goals of the Institution/College.</b>				
<b>1. Alignment of mission of Physics Program With Jouf University mission</b>				
		<b>Physics Program mission</b>		
	<b>Pillar</b>	<b>Education</b>	<b>Scientific Research</b>	<b>Community Services</b>
<b>JU mission</b> Providing distinguished educational and research outputs for community development.	<b>Distinguished educational</b>	✓		
	<b>Research</b>		✓	
	<b>Community development</b>			✓
<b>Alignment</b>	The program mission is concentrated into three main aspects: high-quality Physicists, scientific research, and community services. The first aspect is aligned with the outstanding educational outcomes of the University missions. The second aspect is aligned with excellent research outcomes of the University missions. The community service aspect is also aligned with the University missions to achieve benefits for society.			
<b>2. Alignment of mission of Physics Program With College of Science's mission</b>				

	Physics Program mission			
	Pillar	Education	Scientific Research	Community Services
<b>College of Science mission</b> To provide distinguished academic and research programs in the field of the Basic Sciences and related applications in a motivating environment for scientific research and innovation and to provide the community with knowledge and academic competencies that can meet the requirements of development.	Distinguished academic and research programs	✓	✓	
	Innovative research		✓	
	development and community service			✓
<b>Alignment</b>	The program mission is concentrated into three main aspects: high-quality Physicists, scientific research, and community services. The first aspect is aligned with the outstanding educational outcomes of the College of Science missions. The second aspect is aligned with excellent research outcomes of the College of Science missions. The community service aspect is also aligned with the College missions to achieve benefits for society.			

### 3. Alignment of program goals with mission

	Physics Program mission			
	Pillar	Education	Scientific Research	Community Services
<b>Program Goals</b>	P.Gol.1	✓		
	P.Gol.2	✓	✓	
	P.Gol.3	✓		✓
	P.Gol.4			✓
	P.Gol.5		✓	
<b>Alignment</b>	The program's mission is to prepare high-quality graduates in the Physics field. The graduates should conduct scientific research and help in community services. The mission is concentrated into three main aspects: high-quality Physicists, scientific research, and community services. The first aspect is aligned with the outstanding educational outcomes of the program goals numbers 1 and 2. The second aspect is aligned with excellent research outcomes of the program goal number 1, 3 and 5. The community service aspect is also aligned with the program goal number 1, 3 and 4 to achieve benefits for society.			

### 4. Alimient of Program Goals with Jouf University Goals ([Annex 1.0.2.3](#))

Program Goals	Jouf University Goals (JU-Gols)
P.Gol.1	JU-Gol-1, JU-Gol-2, JU-Gol-3, JU-Gol-4
P.Gol.2	JU-Gol-5, JU-Gol-6, JU-Gol-7
P.Gol.3	JU-Gol-8, JU-Gol-9, JU-Gol-10, JU-Gol-11
P.Gol.4	JU-Gol-15, JU-Gol-16
P.Gol.5	JU-Gol-12, JU-Gol-13, JU-Gol-14

**Alignment**

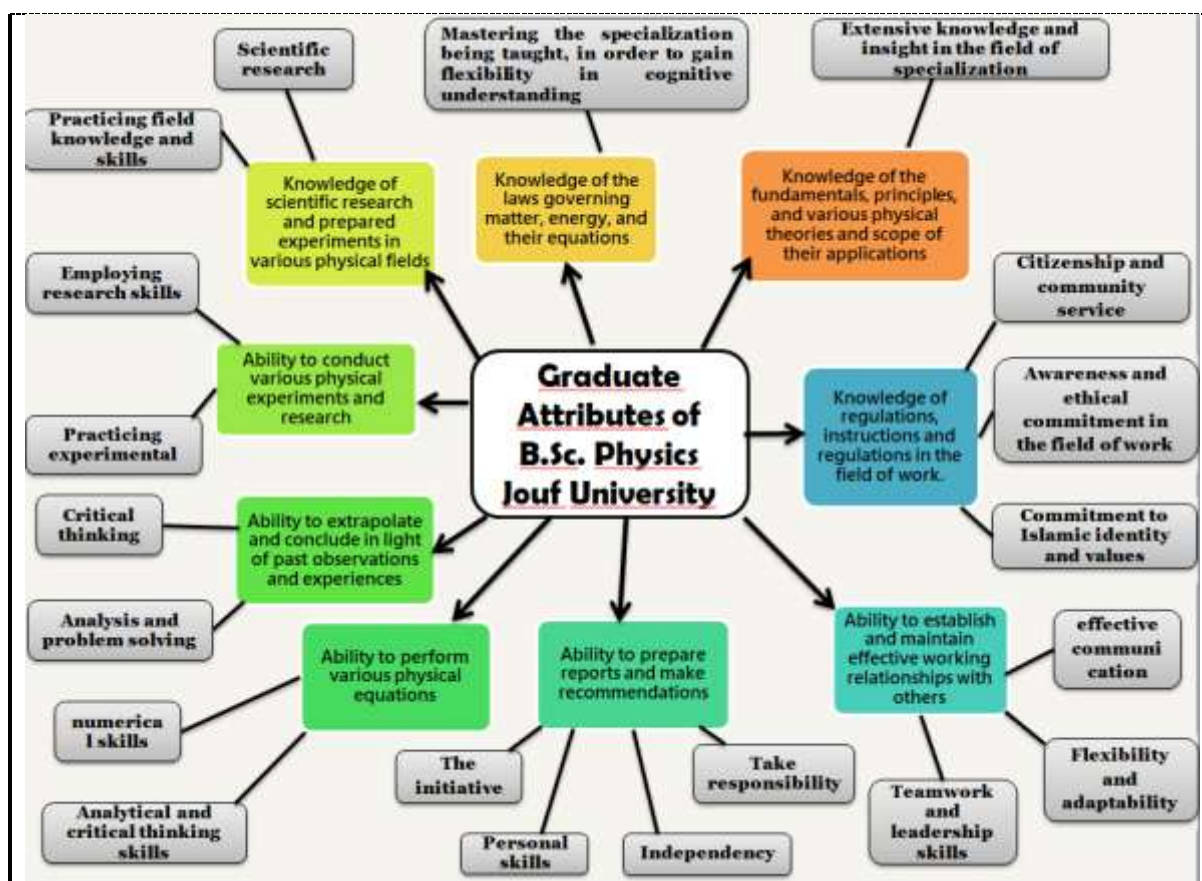
It is clear that the goals of the program are consistent with the goals of the University, which are compatibility with the four main areas of performance, which are the teaching and learning sector, research and development, social responsibility, community service and the supportive university environment. The goals of the program are achieved if these sectors are able to achieve the goal of their existence and success in providing distinguished outputs

**5. Alignment of Program Goals with College of Science goals ([Annex 1.0.2.2](#))**

		Physics Program Goals (P-Goals)					
		Code	P-Gol-1	P-Gol-2	P-Gol-3	P-Gol-4	P-Gol-5
College of Science Goals (CS-Goals)	CS-Gol-1	✓					
	CS-Gol-2		✓				
	CS-Gol-3		✓				
	CS-Gol-4			✓			
	CS-Gol-5				✓		
	CS-Gol-6						✓
<b>Alignment</b>		The Physics program goals are consistent with the College goals in terms of providing distinguished education and raising the efficacy of the faculty and laboratory equipment in a way that raises the efficiency of graduates and scientific research to serve the community. Moreover, the goals of physics program reflect the goals of the College of Science completely. In parallel with the goals of the National Transformation Program 2020 and Vision 2030.					

**4. Graduate Attributes:**

Learning Domains	code	Graduate attributes of the B.Sc. Physics Program
Knowledge and Understanding	PG1	Knowledge of the fundamentals, principles, and various physical theories and scope of their applications.
	PG2	Knowledge of the laws governing matter, energy, and their equations.
	PG3	Knowledge of scientific research and prepared experiments in various physical fields.
skills	PG4	Conduct various physical experiments and research.
	PG5	Able to extrapolate and conclude in light of past observations and experiences.
	PG6	Able to perform various physical equations.
	PG7	Able prepare reports and make recommendations.
	PG8	Able to establish and maintain effective working relationships with others.
Values	PG9	Knowledge of regulations, instructions and regulations in the field of work.



### 5. Program learning Outcomes\*

Graduates of the B. Sc. Physics program will be able to:

#### Knowledge and Understanding

K1	Explore fundamental concepts, facts and principles, and applications of physics.
K2	Demonstrate mathematical theories and commonly used means in Physics.
K3	Critique theories, concepts and applications of modern physics
K4	Outline processes, materials, techniques, practices, conventions and/or terminology in physics field in various complex contexts

#### Skills

S1	Solve broadly defined scientific problems by applying knowledge of mathematics and science to areas relevant to physics.
S2	Formulate and/or design a system, process, procedure or program to meet desired needs independently
S3	Analyze practical experiments and hypotheses to solve problems in Physics.

#### Values

V1	Sustain effectively Islamic values, ethical and professional responsibilities and the impact of scientific solutions in global, economic, environmental, and societal contexts
V2	Collaborate effectively within teams via establishing goals, planning tasks, meeting deadlines, and analyzing risk and uncertainty
V3	learn self-sufficiently and continuously to improve social and professional leadership value

\* Add a table for each track and exit Point (if any)

## + Matrix of consistency of Graduate Attributes and LO's of Physics Program.

	Code	Program Learning Outcomes (PLO'S)									
		Knowledge & Understanding				Skills			Values		
		K1	K2	K3	K4	S1	S2	S3	V1	V2	V3
<b>Graduate Attributes</b>	PG1	✓									
	PG2	✓	✓								
	PG3			✓	✓						
	PG4						✓				
	PG5						✓				
	PG6					✓		✓			
	PG7							✓			
	PG8								✓	✓	
	PG9								✓	✓	✓
<b>Program Mission</b>	<b>Pillar</b>	<b>Education</b>			<b>Scientific Research</b>			<b>Community Services</b>			
<b>Alignment</b>		Learning outcomes and graduate attributes (which describe the qualities, attitudes, behaviors, values and ethics embedded in the learning process, and which students are encouraged to take responsibility for developing through their studies) align with the three pillars of the program's mission of quality education, contribution to scientific research and its applications, and community service.									

## C. Curriculum

### 1. Curriculum Structure

Program Structure	Required/ Elective	No. of courses	Credit Hours	Percentage
Institution Requirements	Required	8	19	14.07 %
	Elective	3	6	4.45 %
College Requirements	Required	6	19	14.07 %
	Elective	0	0	0 %
Program Requirements	Required	22	60	44.44 %
	Elective	4	12	8.88 %
Capstone Course/Project	Required	6	16	11.85%
Field Experience/ Internship	Required	1	3	2.22%
Others				
<b>Total</b>		<b>50</b>	<b>135</b>	<b>100%</b>

\* Add a table for each track (if any)

### 2. Program Study Plan

Level	Course Code	Course Title	Required or Elective	Pre-Requisite Courses	Credit Hours	Type of requirements (Institution, College or Department)
Level 1	ENGL 103	English Language I	Required		3	I



Level	Course Code	Course Title	Required or Elective	Pre-Requisite Courses	Credit Hours	Type of requirements (Institution, College or Department)
	MTH 101	Introductory Mathematics	Required		3	C
	BIO 101	General Biology	Required		3	C
	ISL 101	Fundamentals of Islamic culture	Required		2	I
	CIS 101	Computer Skills	Required		3	I
	EDU 101	University Life Skills	Required		2	I
						<b>16</b>
Level 2	ENGL 104	English Language II	Required	ENGL 103	3	I
	PHS 101	General Physics (1)	Required		4	C
	MTH 102	Differential Calculus	Required	MTH 101	3	C
	CHM 101	General Chemistry (1)	Required		4	C
	ARB 100	Language Skills	Required		2	I
	ISL 100	Studies in the Biography of Prophet	Required		2	I
					<b>18</b>	
Level 3	ARB 102	Editing	Required	ARB 100	2	I
	MTH 203	Integral Calculus	Required	MTH 102	3	D
	PHS 202	General Physics (2)	Required	PHS101	4	D
	PHS 211	Classical Mechanics (1)	Required	PHS101	3	D
	Math 271	General Statistics	Required	MTH 101	2	C
	ISL xxx	Elective course from University requirement*	Elective		2	I
					<b>16</b>	
Level 4	PHS 212	Classical Mechanics (2)	Required	PHS 211	3	D
	PHS 213	Vibrations and Waves	Required	PHS 101	3	D
	PHS 203	Mathematical Physics (1)	Required	PHS101	3	D
	PHS 231	Electromagnetism	Required	PHS202	4	D
	MTH 284	Introduction to Differential Equations	Required	MTH 203	3	D
	ISL xxx	Elective course from University requirement*	Elective	-	2	I
					<b>18</b>	
Level 5	PHS 341	Modern Physics	Required	PHS 202	3	D
	PHS	Electromagnetism Lab	Required	PHS 231	2	D

Level	Course Code	Course Title	Required or Elective	Pre-Requisite Courses	Credit Hours	Type of requirements (Institution, College or Department)
	332	Mathematical Physics (2)	Required	PHS 203	2	D
	PHS 304					
	PHS 351	Optics	Required	PHS 202	3	D
	PHS 352	Optics Lab	Required	PHS 202, Synchrono us with PHS 351	2	D
	PHS 321	Thermal and Statistical Physics	Required	PHS 202	3	D
	EDU 102 or BUS 101	Elective course from University requirement**	Elective	-	2	I
					17	
Level 6	PHS 342	Modern Physics Lab	Required	PHS341	2	D
	PHS 333	Electronics	Required	PHS 231	3	D
	PHS 334	Electronics Lab	Required	PHS 231, Synchrono us with PHS 333	2	D
	PHS 335	Computational Physics	Required	PHS 304	3	D
	PHS 361	Solid State Physics (1)	Required	PHS 341	3	D
	PHS xxx	Elective course (List A)	Elective	PHS xxx	3	D
				16		
Level Level 7	PHS 422	Quantum Mechanics (1)	Required	PHS 341	3	D
	PHS 471	Nuclear Physics	Required	PHS 341	3	D
	PHS 462	Solid State Physics (2)	Required	PHS 361	3	D
	PHS 498	Field Training	Required	Pass 90 units	3	D
	PHS xxx	Elective course (List B)	Elective	PHS xxx	3	D
	PHS xxx	Elective course (List B)	Elective	PHS xxx	3	D
				18		
Level 8	PHS 423	Quantum Mechanics (2)	Required	PHS 422	3	D
	PHS 472	Radiation Physics	Required	PHS 471	3	D
	PHS 473	Nuclear Physics Lab	Required	PHS 471	2	D
	PHS 463	Solid State Physics Lab	Required	PHS 462	2	D
	PHS	Research Project	Required	Pass 100	3	D

Level	Course Code	Course Title	Required or Elective	Pre-Requisite Courses	Credit Hours	Type of requirements (Institution, College or Department)
	499			units		
	PHS xxx	Elective course (List C)	Elective	PHS xxx	<b>3</b>	<b>D</b>
					<b>16</b>	

\* Include additional levels if needed

\*\* Add a table for each track (if any)

\* The student has the right to choose a course from: The Role of Women in Development (ISL 109), Professional Ethics (ISL 107), and Contemporary Issues (ISL 108).

\*\* The student has the right to choose a course from: Volunteer Work (EDU 102), and Entrepreneurship (BUS 101)

### Elective course (List A)

The student has the right to choose one course (3 H) from five

Course Number/Code	Course Name	Credit Hours				Pre-Requisite Courses
		Theoretical	Practical	Training/ Exercises	Accredited	
PHS 353	Laser Physics & its Application	3	0	0	3	PHS 351
PHS 374	Biophysics	3	0	0	3	PHS 202
PHS 365	Semiconductors Physics	3	0	0	3	PHS 333
PHS 343	Renewable energy transformations and environment	3	0	0	3	PHS 321
PHS 364	Plasma Physics	3	0	0	3	PHS 231

### Elective course (List B)

The student has the right to choose two courses (6 H) from four

Course Number/Code	Course Name	Credit Hours				Pre-Requisite Courses
		Theoretical	Practical	Training/ Exercises	Accredited	
PHS 475	Medical Physics	3	0	0	3	PHS 374
PHS 444	Astronomy physics	3	0	0	3	PHS 202
PHS 466	Materials Science	3	0	0	3	PHS 361+PHS 365
PHS 414	Fluid Physics	3	0	0	3	PHS 101

### Elective course (List C)

The student has the right to choose one course (3 H) from five

Course Number/Code	Course Name	Credit Hours				Pre-Requisite Courses
		Theoretical	Practical	Training/ Exercises	Accredited	
PHS 445	Atomic physics & spectra	3	0	0	3	PHS 422
PHS 476	Physics of Nuclear Reactors and accelerators	3	0	0	3	PHS 471+PHS 475
PHS 467	Introduction to Nanoscience and Nanotechnology	3	0	0	3	PHS 462
PHS 491	Selected Topics (Department Approval)	3	0	0	3	Pass 90 units

### 3. Course Specifications

Insert hyperlink for all course specifications using NCAAA template

[https://drive.google.com/drive/folders/lysvHdLjQ8KStwanB5m9zaluSTxBiqPOa?usp=share\\_link](https://drive.google.com/drive/folders/lysvHdLjQ8KStwanB5m9zaluSTxBiqPOa?usp=share_link)

### 4. Program learning Outcomes Mapping Matrix

Align the program learning outcomes with program courses, according to the following desired levels of performance (I = Introduced P = Practiced M = Mastered )

Course code & No.	Program Learning Outcomes									
	Knowledge and understanding				Skills			Values		
	K1	K2	K3	K4	S1	S2	S3	V1	V2	V3
PHS 101	I			I	I		I			
PHS 202	I			I	I		I			I
PHS 211		I			I	I			I	
PHS 212		I			I	I		I		
PHS 213	I				I	I		I		
PHS 203	I	I			I			I		
PHS 231	I				I					I
PHS 341	P		I		P					P
PHS 332				P		P	P	P		
PHS 304	P	P			P			P		
PHS 351	P				P			P		
PHS 352				P		P	P	P		
PHS 321	P	P			P			P		
PHS 342			P	P		P	P	P		
PHS 333	P				P	P			P	
PHS 334	P						P		P	
PHS 335		P			P	P			P	
PHS 361	P				P			P	P	
PHS 353/List A	P				P	P			P	
PHS 374/List A			P		P					P
PHS 365/List A	P				P	P			P	
PHS 343/List A	P				P	P				P
PHS 364/List A	P				P					P
PHS 422	P	P			P					P
PHS 471	M				M	M				M
PHS 462	M				M			M	M	
PHS 498			M	M		M	M	M	M	M
PHS 475/List B	P				P	P			P	
PHS 444/List B	P		P			P				P
PHS 466/List B	M				M	M			M	
PHS 414/List B		P	P		P					P
PHS 423	M	M			M					M
PHS 472	M				M	M			M	
PHS 473				M		M	M	M		
PHS 463				M		M	M	M		

Course code & No.	Program Learning Outcomes									
	Knowledge and understanding				Skills			Values		
	K1	K2	K3	K4	S1	S2	S3	V1	V2	V3
PHS 499			M	M	M		M	M		M
PHS 445/List C			M		M	M		M		
PHS 476/List C	M		M		M			M		
PHS 467/List C			M			M			M	
PHS 491/List C	M	M			M			M		

\* Add a table for each track (if any)

### 5. Teaching and learning strategies to achieve program learning outcomes

Describe policies, teaching and learning strategies, learning experience, and learning activities, including curricular and extra-curricular activities, to achieve the program learning outcomes.

✚ The physics program is committed to the [policy of monitoring the quality of teaching and learning at Jouf University](#).

#### ✚ Curricular activities

➤ The Physics program has a variety of teaching and learning strategies in order to ensure consistency with the program's learning outcomes and courses and their suitability for the numbers of students and the nature of the subject of the lecture (because each subject has a special nature, there are theoretical and practical subjects ...), the student's previous experiences, abilities Students and their preparations and the availability of appropriate learning resources.

➤ The teaching and learning strategies in the program are dominated by **active learning strategies** [[Center for Excellence in Teaching and Learning, University of Connecticut](#)], which are an approach to teaching that involves actively engaging students in higher-order thinking (analysis, synthesis, evaluation) in the course material through discussions, problem-solving, and other methods. Active learning approaches place a greater degree of responsibility on the learner than passive methods such as lecturing, but teacher guidance is still crucial in an active learning classroom. Active learning activities may range from two minutes to full class sessions or may take place over multiple class sessions. Active learning focuses on four basic activities: **(1) Talking and listening, (2) Writing, (3) Reading, and (4) Reflecting.**

➤ The following teaching methods either alone or in combination are followed to deliver the courses, which are well aligned to achieve the intended learning outcomes of various domains as indicated in the following table, active learning strategies are marked by **Red** color.

The domain of Program learning outcomes (PLO'S)		C o d e	Physics Program Learning Outcomes (PLO'S)	Teaching and learning strategies
Knowledge & Understanding	Theoretical, factual and procedural knowledge	K1	Explore fundamental concepts, facts and principles, and applications of physics.	<ul style="list-style-type: none"> <li>▪ Lecture</li> <li>▪ <b>Self-learning</b></li> <li>▪ Microteaching</li> <li>▪ <b>E-learning and distance education</b></li> <li>▪ <b>Minute paper</b></li> <li>▪ <b>Quiz</b></li> <li>▪ <b>Think-Write-pair-share</b></li> <li>▪ <b>Panel discussion</b></li> </ul>
		K2	Demonstrate mathematical theories and commonly used means in Physics.	
	Knowledge of processes,	K3	Critique theories, concepts and applications of modern physics	

		materials, techniques, practices, conventions and/or terminology			<ul style="list-style-type: none"> <li>▪ Quiz</li> <li>▪ Presentation response</li> <li>▪ Think-pair-share</li> <li>▪ Jigsaw group project</li> <li>▪ Follow up of students</li> </ul>
			K4	Outline processes, materials, techniques, practices, conventions and/or terminology in physics field in various complex contexts	<ul style="list-style-type: none"> <li>▪ Lecture</li> <li>▪ Interactive Lecture</li> <li>▪ Self-learning</li> <li>▪ Microteaching</li> <li>▪ Quiz</li> <li>▪ Presentation response</li> <li>▪ Think-pair-share</li> <li>▪ Jigsaw group project</li> <li>▪ Follow up of students</li> <li>▪ Experiential learning</li> </ul>
Skills	Cognitive Skill	Application of knowledge	S1	Solve broadly defined scientific problems by applying knowledge of mathematics and science to areas relevant to physics.	<ul style="list-style-type: none"> <li>▪ Lecture</li> <li>▪ Microteaching</li> <li>▪ Self-learning</li> <li>▪ Investigation</li> <li>▪ Problems solving</li> <li>▪ Minute paper</li> <li>▪ Presentation response</li> <li>▪ Think-Write-pair-share</li> <li>▪ Work at the black board</li> </ul>
		Research and inquiry	S2	Formulate and/or design a system, process, procedure or program to meet desired needs independently	<ul style="list-style-type: none"> <li>▪ Microteaching</li> <li>▪ Practical performance</li> <li>▪ Self-learning</li> <li>▪ Investigation</li> <li>▪ Problems solving</li> <li>▪ Quiz</li> <li>▪ Think-pair-share</li> <li>▪ Note comparison</li> <li>▪ Jigsaw group project</li> <li>▪ Discussion</li> <li>▪ Experiential learning</li> </ul>
	Practical and Physical Skills	Carrying out practical tasks and procedures	S3	Analyze practical experiments and hypotheses to solve problems in Physics.	<ul style="list-style-type: none"> <li>▪ Lecture</li> <li>▪ Cooperative groups in class share</li> <li>▪ Jigsaw group Project</li> <li>▪ Discussion</li> <li>▪ Work at the blackboard</li> </ul>
Values	Values and Ethics	Values, ethics, and citizenship	V1	Sustain effectively Islamic values, ethical and professional responsibilities and the impact of scientific solutions in global, economic, environmental, and societal contexts	<ul style="list-style-type: none"> <li>▪ Lecture</li> <li>▪ Cooperative groups in class share</li> <li>▪ Jigsaw group Project</li> <li>▪ Discussion</li> <li>▪ Work at the blackboard</li> </ul>
	Autonomy and Responsibility	Collaboration, leadership, and responsibility	V2	Collaborate effectively within teams via establishing goals, planning tasks, meeting deadlines, and analyzing risk and uncertainty	<ul style="list-style-type: none"> <li>▪ Cooperative groups in class share</li> <li>▪ Jigsaw group Project</li> <li>▪ Discussions</li> <li>▪ Experiential learning</li> </ul>
			V3	learn self-sufficiently and continuously to improve social and professional leadership value	<ul style="list-style-type: none"> <li>▪ Panel Discussions</li> <li>▪ Discussions</li> <li>▪ Jigsaw group Project</li> <li>▪ Self-learning</li> <li>▪ Experiential learning</li> </ul>

❖ The Program offers guidance on the [preconditions for Active Student Involvement, and how to perform the Active Learning Strategies](#) in the Physics program.

#### ✚ Extra-curricular activities

In addition, extra-curricular activities complement the academic **Physics program** curriculum by refining and developing interpersonal skills and behaviors, hence, enhancing students' experience. The impact of student engagement in extracurricular activities on

achievement and employment is becoming evident nowadays.

➤ The following table summarizes some of the extra-curricular activities that will be offered to students in the academic year 2020/2021 and 2021/2022 and their impact on the Physics program learning outcomes.

Extra-curricular activity	Program Learning Outcomes										Assessment Methods	
	K1	K2	K3	K4	S1	S2	S3	V1	V2	V3		
<b>Visiting academic and research resources</b>												Observation[Rubrics-based]
1. the central Library	✓			✓		✓	✓					
2. Central laboratory												
3. Solar energy station												
<b>Technological Skills</b>												Observation[Rubrics-based]
1. Typing skills												
2. Online research skills & knowledge of online etiquette		✓		✓		✓	✓	✓				
3. Experience with commonly used software programs												
<b>Academic Teams and Clubs</b> (Sciences club)						✓	✓		✓	✓		Observation[Rubrics-based]
<b>Attendance the scientific activities in College of Sciences</b>								✓	✓	✓		Observation[Rubrics-based]
<b>Sports</b> (Football, Athletics...)									✓	✓		Survey <a href="#">the quality of student services;</a> <b>Second Theme: Cultural activities;</b> <b>Third Theme: Sports activities</b>
<b>Volunteer &amp; Community Organizations</b> (associations concerned with preserving the environment)									✓		✓	Survey <a href="#">the quality of student services;</a> <b>Second Theme: Cultural activities;</b> <b>Third Theme: Sports activities</b>

### 6. Assessment Methods for program learning outcomes.

Describe assessment methods (Direct and Indirect) that can be used to measure achievement of program learning outcomes in every domain of learning.

A variety of assessment methods will be used to test your understanding. Assessments may be formative, summative or both.

**Formative assessments** do not contribute to the module mark but provide information on the student's progress as an individual and in the context of the teaching session. This allows to students to learn by using their new skills to solve problems and receive feedback on their performance to guide your future learning. This supports students to achieve a better performance in the summative assessments which do count towards their module marks. Formative assessments also provide feedback to the teaching staff which allows us to adapt our teaching to the needs of the learner.

**Summative assessments** are used to assess student's learning against the intended module learning outcomes and contribute towards their achievement of the program learning outcomes, detailed above. All modules contain aspects of summative assessment and these

assessments will contribute towards their mark for each year. The grades for summative assessment are assigned by lecturers.

The choice of assessment method is largely determined by the nature of the course and its learning outcomes.

The domain of Program learning outcomes (PLO'S)		code	Physics Program Learning Outcomes (PLO'S)	Direct Assessment Methods	
Knowledge & Understanding	Theoretical, factual and procedural knowledge	K1	<i>Explore fundamental concepts, facts and principles, and applications of physics.</i>	<ul style="list-style-type: none"> <li>▪ Written Exams (midterm exams, final exam, practical exam)</li> <li>▪ Written and Oral Quizzes</li> <li>▪ Homework</li> </ul>	
		K2	<i>Demonstrate mathematical theories and commonly used means in Physics.</i>		
	Knowledge of processes, materials, techniques, practices, conventions and/or terminology	K3	<i>Critique theories, concepts and applications of modern physics</i>	<ul style="list-style-type: none"> <li>▪ Written Exams (midterm exams, final exam, practical exam)</li> <li>▪ Homework</li> <li>▪ Written and Oral Quizzes</li> <li>▪ Reports (Rubrics-based)                             <ul style="list-style-type: none"> <li>□ <u>Field training</u></li> </ul> </li> <li>• Final Training report [Rubrics-based].</li> <li>• Attendance and participation</li> <li>• Weekly reports</li> </ul>	
		K4	<i>Outline processes, materials, techniques, practices, conventions and/or terminology in physics field in various complex contexts</i>	<ul style="list-style-type: none"> <li>▪ Written Exams (midterm exams, final exam, practical exam)</li> <li>▪ Written and Oral Quizzes</li> <li>▪ Projects [Rubrics-based]                             <ul style="list-style-type: none"> <li>□ <u>Field training</u></li> </ul> </li> <li>• Attendance and participation</li> </ul>	
Skills	Cognitive Skill	Application of knowledge	S1	<i>Solve broadly defined scientific problems by applying knowledge of mathematics and science to areas relevant to physics.</i>	<ul style="list-style-type: none"> <li>▪ Written Exams (midterm exams, final exam, practical exam)</li> <li>▪ Homework</li> <li>▪ Written presentation (essay, reflective paper, etc.) /Oral presentation [Rubrics-based]-<b>can be summative and/or formative</b></li> </ul>
		Research and inquiry	S2	<i>Formulate and/or design a system, process, procedure or program to meet desired needs independently</i>	<ul style="list-style-type: none"> <li>▪ Written Exams (midterm exams, final exam, practical exam)</li> <li>▪ Homework</li> <li>▪ Projects [Rubrics-based]                             <ul style="list-style-type: none"> <li>□ <u>Field training</u></li> </ul> </li> </ul>



					<ul style="list-style-type: none"> <li>• Final Training report [Rubrics-based].</li> <li>• Weekly reports</li> </ul>
	<b>Practical and Physical Skills</b>	Carrying out practical tasks and procedures	S3	<i>Analyze practical experiments and hypotheses to solve problems in Physics.</i>	<ul style="list-style-type: none"> <li>▪ Written Exams (midterm exams, final exam, practical exam)</li> <li>▪ Reports (Rubrics-based)</li> <li>▪ Written presentation (essay, reflective paper, etc.) /Oral presentation [Rubrics-based]-<b>can be summative and/or formative.</b></li> <li>□ <u>Field training</u></li> <li>• Final Training report [Rubrics-based].</li> <li>• Attendance and participation</li> <li>• Weekly reports</li> </ul>
Values	<b>Values and Ethics</b>	Values, ethics, and citizenship	V1	<i>Sustain effectively Islamic values, ethical and professional responsibilities and the impact of scientific solutions in global, economic, environmental, and societal contexts</i>	<ul style="list-style-type: none"> <li>▪ Group work (Rubrics-based)-<b>can be summative and/or formative</b></li> <li>▪ Projects [Rubrics-based]</li> </ul>
	<b>Autonomy and Responsibility</b>	Collaboration, leadership, and responsibility	V2	<i>Collaborate effectively within teams via establishing goals, planning tasks, meeting deadlines, and analyzing risk and uncertainty</i>	<ul style="list-style-type: none"> <li>▪ Group work (Rubrics-based)-<b>can be summative and/or formative</b></li> <li>▪ Reports [Rubrics-based]</li> </ul>
			V3	<i>learn self-sufficiently and continuously to improve social and professional leadership value</i>	<ul style="list-style-type: none"> <li>▪ Group work (Rubrics-based)-<b>can be summative and/or formative</b></li> <li>▪ Projects [Rubrics-based]</li> </ul>
<b>Indirect assessment methods</b>					<ul style="list-style-type: none"> <li>▪ Course evaluation survey</li> <li>▪ Students survey on evaluating the physics program</li> <li>▪ Alumni survey</li> <li>▪ Employer's survey.</li> </ul>

Other assessments methods that some courses may have include the following.

- **Student Portfolio**. Portfolio assessments ask students or teachers to collect work products that show growth over a specific period of time is purely formative.
- **Observation** [Rubrics-based] associated with **extra-curricular activities** are purely formative.

❖ Presentations, reports, project, research projects, Final Training report, labs, etc. are assessed using rubrics scoring.

- **Group work** [Rubrics-based]

- [Written presentation \(essay, reflective paper, etc.\) / Oral presentation](#) [Rubrics-based]-
- [Reports](#) [Rubrics-based]
- [Projects](#) [Rubrics-based]
- [Graduation project](#) [Rubrics-based]
- [Field training evaluation](#) [Rubrics-based]

✚ **The physics program is committed to the [policy of monitoring the quality of teaching and learning at Jouf University](#).**

✚ **Independent verification of student achievement standards in the Physics program is under university policy: [Policy of verifying the standards of achievement for students at Jouf University](#).**

✚ **Physics program is committed to the [Ethical Codes in Physics and Related Fields](#).**

✚ **Academic Feedback Procedure in the B.Sc. Physics**

Feedback is an essential part of learning and the Program gives high priority to providing timely and high-quality feedback to students on all modules throughout the degree. Feedback highlights any previous work's strengths and weaknesses and identifies areas for improvement. Feedback works best as an active exercise and you are expected to engage with all forms of feedback to maximize what you can get out of your learning.

Feedback will be provided for all assessments carried out as part of this program and takes many forms depending on the nature and learning outcomes of the module involved.

Examples of feedback styles are:

- Oral feedback to a group may be provided during or after lectures
- Personal feedback may follow from discussions with lecturers during office hours or meetings with Personal Tutors
- Interactive feedback may follow from peer group discussion
- Written feedback may take the form of solutions to coursework or writing on formal reports.

It is essential to realize that not all feedback is structured and written into module specifications. Some of the most important feedback comes from one's own self-reflection and from real-time discussions (orally or online) with peers, graduate teaching assistants, and lecturers.

For formal assessments, the University's policy is to provide proper feedback within seven working days of submission for most assignments and **the B.Sc. Physics adheres to the [Policy of examinations and student evaluation](#)**.

Exams grades are provided after the examiners' meetings. Dates for these meetings will be provided during the academic year.

✚ **Academic Integrity**

Integrity is a core value at Jouf University, and it is expected that JU students complete their assessment tasks honestly and with acknowledgement of other people's work. This means that assessment tasks must be completed individually (unless it is an authorized group assessment task) and any sources used must be referenced.

Breaches of academic integrity can include:

- **Plagiarism**

Copying the words, ideas or creative works of other people, without referencing in accordance with stated University requirements. Students need to seek approval from the Unit Coordinator within the first week of study if they intend to use some of their previous work in an assessment task (self-plagiarism).

- **Unauthorized collaboration (collusion)**

Working with other students and submitting the same or substantially similar work or portions

of work when an individual submission was required. This includes students knowingly providing others with copies of their own work to use in the same or similar assessment task(s).

- **Contract cheating**

Organizing a friend, a family member, another student or an external person or organization (e.g. through an online website) to complete or substantially edit or refine part or all of an assessment task(s) on their behalf.

- **Cheating in an exam**

Using or having access to unauthorized materials in an exam or test.

Serious outcomes may be imposed if a student is found to have committed one of these breaches.

- The B.Sc. Physics adheres to [the Student's Guide to the Scientific Secretariat of Jouf University](#).
- The program also has a verification mechanism and procedures ([Annex 3.3.8.2A](#)) to ensure that all student work sent via Blackboard are from their production using the plagiarism program.

## D. Student Admission and Support:

### 1. Student Admission Requirements ([Annex 4-1-3](#))

□ **Admission to the Program:**

Registration at Jouf University is done through the University's admission portal, and the application for admission to the University is registered completely electronically. The student does not need to review the Deanship of Admission and Registration at the University during the application stage. By his inquiry either to the University through the website, Twitter account, or the unified number, the Deanship of Admission and Registration explained through the electronic portal guide for admission to Jouf University the steps required to register applications for admission to the University for new students, and came as follows:

- The University council determines, at the suggestion of the college council and the relevant authorities, a number of university students to be admitted in the next academic year.
- The applicant must apply a request of enrollment to the Deanship of Admission and Registration (electronic registration). Deadlines are announced each academic year.
- The applicant must meet the requirements to attend the University.
- The applicant must hold the General Secondary Certificate or its equivalent from inside or outside Saudi Arabia.
- The University should determine the success rate of students at the secondary level in the academic year that the students apply for admission.
- It should not have been on receiving a high school or its equivalent for more than five years.
- The Council of the University exception to this requirement if compelling reasons are available.
- Successfully pass any test or personal interview held by the College or University.
- The applicant must behave well and not be separated from the other universities for Disciplinary Reasons.

- Shall not accept those with a bachelor's degree or equivalent to get a bachelor's again, and the president exception to that.
- To satisfy any other requirements prescribed by the University Council that declares the time of submission.
- The applicant must pass a medical examination to be medically fit and free of infectious diseases.
- The Admission and Registration manual for the Physics Program is available through the following link:

[https://drive.google.com/file/d/1EWcCiyWmeT\\_qAJ04ibWzm\\_LFoF5SfC3O/view?usp=share\\_link](https://drive.google.com/file/d/1EWcCiyWmeT_qAJ04ibWzm_LFoF5SfC3O/view?usp=share_link)

□ **Criteria for transfer (Annex 4-0-4-1)**

**The department applies the transfer policies and procedures in A List of Rules and Regulations of Undergraduate Study and Examinations at Jouf University.**

These guidelines are based upon and consistent with the general rules of the Saudi Ministry of Education and are available on the Deanship of Admissions and Registration website at:

[list\\_laws\\_E.pdf \(ju.edu.sa\)](#) (English version)

[list\\_laws\\_E.pdf \(ju.edu.sa\)](#) (Arabic version)

## 2. Guidance and Orientation Programs for New Students

### ❖ At the University level

The Vice Dean of Student Affairs is considered the first and most important service center for College male & female students. The Vice Dean provides its services through Student Activities, Student Funds, and full supervision & follow-up of these services so that the students can live in a campus environment that suits their aspirations, helping them to progress and succeed in their University.

Her most important duties towards new students are: Introducing the guided students to the University's systems and regulations, especially those related to the test regulations and study system, the disciplinary regulations for students, and other things that the student is interested in knowing.

### ❖ At the College level

At the beginning of the new academic year, the Academic Advising Unit, in cooperation with the Students Activities committee at the College of Science, Jouf University, organizes a ceremony for the new students.

### ❖ At the Department level

- Each faculty member will be assigned a group of students for counseling and advising.
- A student must meet his academic advisor at least twice a semester, the first visit before registration.

Each faculty member will be asked to post their office hours, during which a student can visit to receive counseling and advising.

## 3. Student Counseling Services (Annex 4-0-7-1)

(academic, career, psychological and social )

### ● Academic Counseling

- 1) Organizing an orientation meeting at the beginning of each semester of each year to introduce the student, the new curriculum, the College, its system, its nature, and its departments. The expected Jobs for the department,
- 2) Organizing courses, training sessions, workshops, and lectures to teach students some skills and prepare the College's students for Exams.
- 3) Helping students solve their psychological and social problems that directly affect academic achievement.
- 4) Coordinating with the College Academic Advising Unit and performing assigned tasks
- 5) Early guidance for students to register for their courses for next semester, prevent conflicts and problems and avoid them in the last semester.
- 6) Address the problems of students who fail and guide them appropriately.
- 7) Activation of the E-Counseling.

● **Career Counseling**

- 1) Helping students discover their tendencies and abilities and acquire the skills to search for jobs that suit their qualifications and make appropriate decisions for their future.
- 2) Preparing students to join the labor market by providing them with the required skills, such as writing a proper resume - preparing for job interviews.
- 3) Creating programs and courses for students to help them start their work and present their past experiences.
- 4) Directing students on how to develop their skills and ability during the university period to suit the labor market and the Kingdom's vision for 2030.
- 5) Continuous communication with graduates who have been hired, follow-up evaluation of their job performance, and benefit from their experiences.

● **Psychological Counseling**

- 1) Help the student to recognize their abilities and benefit from them to solve their problems and make the right decisions.
- 2) Amendments some wrong behaviors into correct ones.
- 3) Applying psychological tests and clinical interviews for diagnosis and psychotherapy through psychological sessions and converting some cases that need psychiatric treatment.
- 4) Supporting the student to restore psychological balance due to social and cultural changes, scientific and technological advances, and means of communication has changed many values and trends.
- 5) Counseling and psychological support control the fear, anxiety, and frustration that dominate the student due to the transition from one stage to another and then the transition from study to work.
- 6) Helping the student to understand to be able to choose the appropriate career for them and their scientific and practical abilities so that the student succeeds in his work and achieves satisfaction and proper compatibility.
- 7) Contributing to solving problems resulting from family change, such as housing, marriage, and family planning problems, in addition to solving work problems.

● **Social Counseling**

- 1) Follow-up of students who have failed to study due to social conditions.
- 2) Enable students to adapt and overcome social problems by providing social counseling services.
- 3) Study cases of students who are eligible for financial aid.
- 4) Enabling the student to build social relationships with colleagues and faculty members.
- 5) Enhancing the university student's role in community service.
- 6) Enhancing students with special needs at the University to achieve the principles of self-

independence and social equality.

7) Promote the principles of religion and patriotism.

- [Academic Advising and Counselling Guide at the College of Science](#)

#### **4. Special Support ([Annex 4.0.8.1](#))**

(low achievers, disabled, gifted and talented)

**Based on the care system for the disabled issued by Royal Decree No. (M / 37) dated 23/9/1421 A.H., and in the belief of Jouf University that education is a legitimate right for all spectrums of society, male and female alike, has been formed a unit with special needs, as one of the units of the Deanship Students' Affairs is concerned with overcoming all the difficulties and challenges faced by the university students.**

##### **A/ Low achievers**

- The College evaluates students' academic achievement profiles and monitors their performance during the year.
- Early during the year, the academic affairs committee prepares a list with names of students who are faltering and whose performance is below standard.
- The list is forwarded to the assigned academic advisor, who initiates a remediation process.
- Academic advisors meet with students and provide immediate feedback.
- Recommendations for additional assistance in special cases are forwarded to the Dean of the College.
- The system permits failing students to be given a second chance and is allowed to re-sit the exam.
- College of Science strives that success rate, in general, and for each taught course does not fall below 80%. The college council discussed the report on compilation & success rate, which was provided by cooperation between the academic affairs committee and the quality unit.
- The college council requests that a departmental investigation and action-oriented review be triggered if the scores for a particular exam fall below the college benchmark.

##### **B/ Disabled**

- The College launches a periodical awareness campaign to support people with special needs.
- Urged the employees of the College not to use the facilities and equipment meant for people with special needs. Besides, the availability of facilities for people with special needs in all buildings of the College and parking.

##### **C/ Gifted and talented**

- Rewarding gifted, talented, and outstanding students via factual, moral rewards or facilities to participate in extra-curricular and recreational activities.
- Introducing an introductory module (Principles of Learning and Physics Education). It is specially constructed with the intent to help students transit from the dependent–teacher-centered learning situation to the independent lifelong self-directed approach to learning.

- [Academic Advising and Counselling Guide at the College of Science](#)

## E. Teaching and Administrative Staff

### 1. Needed Teaching and Administrative Staff

Academic Rank	Specialty		Special Requirements / Skills ( if any )	Required Numbers		
	General	Specific		M	F	T
Professors	Physics	Nuclear physics		1	0	1
Associate Professors	Physics	Nuclear physics Solid stats		9	2	11
Assistant Professors	Physics	Nuclear physics Laser Nano tec. Solid state Plasma		12	9	21
Lecturers	Physics	Physics		7	-	7
Teaching Assistants	Physics	Physics Bio physics Nuclear and biophysics		7	14	21
Technicians and Laboratory Assistants	Physics	Physics		6	2	6
Administrative and Supportive Staff	-	-		-	-	-
Others ( specify )	-	-		-	-	-

### 2. Professional Development

#### 2.1 Orientation of New Teaching Staff

Describe briefly the process used for orientation of new, visiting and part-time teaching staff

The B.Sc. Physics program prepares an orientation for the new teaching staff to understand their rights, tasks, responsibilities, and workload. Additionally, the package includes a welcome information package designed to assist new teaching staff in assimilating into the academic community at Jouf University, as well as providing essential information regarding living and working in the area, as well as offering assistance to new faculty members and their families. These procedures can be summarized as follows:

The orientation will be carried on three stages:

#### Stage I:

2 days general lectures to cover the following:

1. Introduce the program mission and goals and the alignment with University and College missions and goals. The procedures on how to build program mission and goals and the mechanism of review of the mission and goals.
2. Program specification and courses specification.
3. Introduce the internal regulations of the University and higher education.
4. Rights and duties of teaching staff.
5. Ethics of Physics program.
6. Program learning outcomes and Program Graduates Attributes.

#### Stage II

3 days training courses

1. Managing the basic tools of the course through the Blackboard system.
2. The Academic Advisor.
3. Program teaching strategies and assessments.
4. Guidelines for course report and course files.

### **Stage III**

The feedback from the new teaching staff and action plans.

## **2.2 Professional Development for Teaching Staff**

Describe briefly the plan and arrangements for academic and professional development of teaching staff (e.g., teaching & learning strategies, learning outcomes assessment, professional development, etc.)

### **A/ Improvement of skills in teaching and student assessment?**

#### **❖ At the University level**

Through its Skills Development Center (SDC), Jouf University provides a wide range of professional development opportunities to its faculty members. A summary and report of the training program can be found at [SDC Training Archive](#) .

#### **❖ At the College level**

1. Launch talks and seminars in the College.

#### **❖ At the Program level**

The physics program acts to develop the personal and professional skills of the staff members (Program members and technicians). The training and development committee acts through [Jouf university professional and personal development policy](#). In the first semester of each year, the training and development committee starts the procedure to establish the training plans for physics program members and technicians and implement the professional and personal development policy.

## **F. Learning Resources, Facilities, and Equipment**

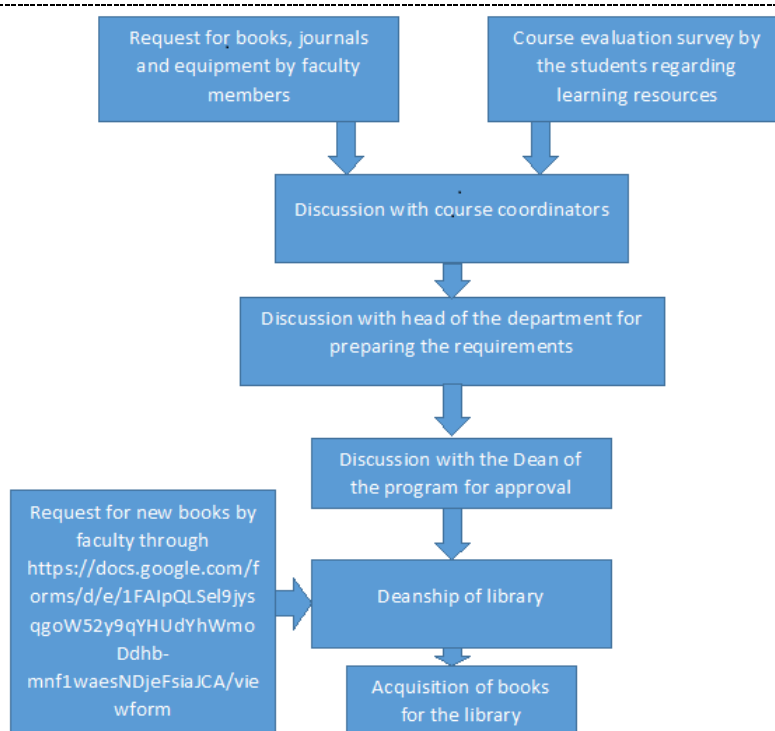
### **1. Learning Resources.**

Mechanism for providing and quality assurance of learning resources (textbooks, references and other resource materials, including electronic and web-based resources, etc.)

**Staff members may send a request to provide any needed textbook/reference book to the library through the Head of Department throughout the following steps:**

1. The members of the assigned committee in the physics department prepare a report discussing the plan to provide or update books and references for the physics program.
2. The committee concluded a plan starting by preparing a list of books addressed in the student study plan and checking the availability of these books in the central library of the University.
3. A letter to the central library should be prepared to provide books that are not available in the central library. Or directly from the [Jouf University Libraries Catalogue](#).
4. Follow-up of the transaction sent and received in advance of the previous item until the committee is notified of the requested references and books.
5. To evaluate available resources, the department conducts a comprehensive survey of the program's software, classrooms, and labs.





**The process for providing and quality assurance of learning resources.**

6. The Saudi Digital Library (SDL) is also available to students and the teaching staff of the program.

**Learning resources include also**

Blackboard D2L: <https://lms.ju.edu.sa/>

E-library, Saudi Digital Library (SDL): <https://sdl.edu.sa/SDLPortal/en/Publishers.aspx>  
Websites.

**2. Facilities and Equipment**

(Library, laboratories, medical facilities, classrooms, etc.).

***College of Science has 1 building, 36 classrooms, 38 laboratories, and 3 computer lab.***

**Comments:**

The female student and female staff will move to a new building shortly. The building is under construction now. They will be around more than 12 Laboratories and 15 classrooms for the physics department in the new building.

- ❖ Faculty and staff members generally follow the procedures to acquire resources, which typically start by submitting their requests in appropriate forms through their department heads. Carry out the model of the suitability of equipment, laboratories and halls for the educational process through a technical committee
  - The Committee reviews the library, laboratories, classrooms, toilets, and other facilities and ensures that they are met and identified deficiencies.
  - The Committee prepares a report with its shortcomings.
  - The Committee shall submit to the Deanship of the College to raise the physics

department with shortcomings to be damaged to fit the educational process.

- **Classrooms:**

Most of the courses in the Physics department are taught in normal classrooms. The normal classroom at the University includes a computer to which faculty have accesses in addition to a monitor and presentation systems. Courses that require special computer laboratories are scheduled in the computer teaching room in the Laboratories Building. Practical courses are taught in laboratories and workshops located in the Laboratories Building. The Physics department has 6 dedicated and 1 shared classrooms. The Physics department has 5 dedicated and 7 shared classrooms.

- **Laboratory facilities:**

The institutional environment (facilities, equipment, and infrastructure) at the Department of Physics, College of Science includes sufficient space and technology which allow the department to deliver an effective and efficient learning process. Instructional methods and approaches in a conducive learning environment will be more effective through good use of these facilities and equipment that enable students to take responsibility for their learning. The use of these facilities and equipment is assessed regularly in terms of their suitability for all stakeholders, i.e. students, faculty, and staff.

In the physic department, there is routine maintenance for the laboratories and the equipment. In all classrooms and laboratories, there are effective technical tools such as Data show. The following table shows the distribution of classrooms and laboratories between the male and female campuses.

The Physics Department has an appropriate number of laboratories and classrooms equipped with the latest teaching aids such as computers, display screens and various experiments to serve the educational process, in accordance with the general policy of Jouf University and its statement. There are nine practical courses in the Physics Program (Optics, PHS 101, PHS 202, Electromagnetics, Electronics, Modern Physics, Nuclear Physics, Solid State Physics, and Computer Use in Physics). These courses are divided into 9 laboratories in the male section and 6 laboratories in the female section, with large halls that can house multiple laboratories in the same location. The following table shows the distribution of classrooms and laboratories between the male and female campuses.

<b>Male section</b>	<b>Number of classrooms</b>	<b>5</b>
	<b>Number of undergraduate student laboratories</b>	<b>9</b>
	<b>Number of research laboratories</b>	<b>1</b>
<b>Female section</b>	<b>Number of classrooms</b>	<b>9</b>
	<b>Number of undergraduate student laboratories</b>	<b>9</b>

The availability of learning resources, facilities, and equipment in the physics program is summarized in this Annex ([Annex 6-0-1-1-H](#))

- **Libraries**

- **Central library:**

University has a central library. The library holds over 23000 book titles in both Arabic and English, in addition to numerous journal subscriptions, government publications, dissertations, databases, and manuscripts with a fully automated retrieval and storage system. Especially, the physics section library holds about 1000 textbook titles in English. All the study plan texts book is available in the central library.

It contains material and software appropriate to serve the attendees of the library. Sections of the Central Library:

1. *Library Management*
2. *Services beneficiaries*
3. *The electronic catalog*
4. *Hall of free viewing and reading*
5. *Periodicals*
6. *References and foreign books*

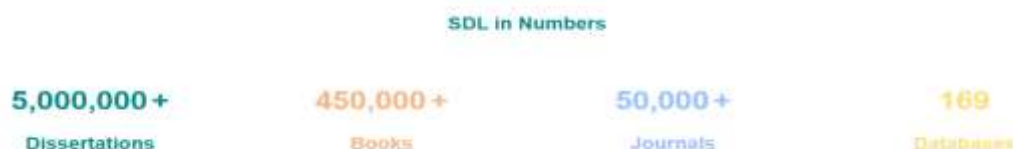
**Library Systems:**

Management of the library and its indexes is done through its coding system which is considered to be among the modern systems used in library management.

**Library Services:**

The database includes information about both printed and electronic books as well as the storage information of printed journals. Electronic books can be accessed via a link to the Library catalog. The Library provides its customers with library and information services both on-site and online. Information literacy education for the entire University is also arranged and given by the Library personnel. The Library is open to faculty staff, students, and the general public during terms workdays. There are 10 computer workstations available for the customers.

- **Saudi Digital Library (SDL):** is the largest academic gathering of information sources in the Arab world, with more than (310 ,000) scientific references, covering all academic disciplines, and the continuous updating of the content in this. The library has contracted with more than 300 global publishers. It also provides a digital environment for various Saudi universities, and research organizations in common with it in. This environment has the following advantages: • One central management- manages this huge content, and it is constantly updated. • Common share by one University would benefit other universities in any scientific field. • Enhance the status of universities when evaluating, for Academic Accreditation, and through sources rich, modern, and publish the best Global Publishers. • Bridging the gap between Saudi universities, where emerging universities can get the same service as available in major Saudi universities.



- ❖ By the end of the academic year, the physics department encourages each faculty member to provide recommendations for course books in course reports and send to the department for approval. After approval by the department, the list of books and references is submitted to the central library to start the processes of purchasing. The faculty member regularly advises students on the reference material to be kept in the library and the importance of access to the university database which allows access to most of the global publishing databases.

- **Medical facilities**

The University has a medical center servicing all the university staff, employers and students. The center is equipped with all the necessary medical facilities.

### **3. Arrangements to Maintain a Healthy and Safe Environment** (According to the nature of the program )

Safety is a core value at Jouf University, and the University is committed to the continued advancement of an institutional safety culture with strong programs of personal safety, accident and injury prevention, wellness promotion, and compliance with applicable environmental and health and safety laws and regulations.

The University requires laboratory supervisors and research project leaders to take responsibility to control risk. Laboratory worker has the responsibility to observe the basic safety rules that have been established to help to create a safe and healthy working environment.

Safety Guideline has been constructed to provide practical guidance to persons in charge and other laboratory users on how to implement health and safety measures as required under the safety policies.

1. Laboratories Committee is formed at the beginning of each academic year.
2. The above-mentioned committee meets regularly as required for discussing health and safety matters as well as environmental protection issues, and for promoting the awareness of those issues among staff and students within the department.
3. This committee is responsible for releasing a booklet in each laboratory for maintaining safety and health issues
4. The departmental head should revise all course plans and confirm that the first topic in each practical course will cover safety issues carefully.
5. According to the University's Laboratory Safety Management Policy, the Head of the Department should also appoint a staff member to be in charge of each laboratory. The person in charge should:
  - Assess risks of work activities, work environment, and usage of plants and substances under their jurisdiction
  - Inspect the laboratory to identify and evaluate workplace hazards and unsafe work practices
  - Inform users of the laboratory about health and safety matters
  - Establish and maintain good health and safety practices
  - Follow established guidelines and assist others to meet safety requirements report promptly on all accidents/incidents and maintain an up-to-date record of documents as required by legislation and by the University [Safety and Security Guide for the Faculty of Science Laboratories](#) . The basic intention of this guide is that a student in the Physics Laboratories should become familiar with the hazards in the lab and be aware of what is required in case of harmful events. Also Document of hygiene and quality standards for college facilities is attached ([Annex 6-0-9-2](#)). A schedule or statement of cleaning works services and names of employees ([Annex 6-0-9-3](#)) is attached to show how to monitor the progress of applying security, safety and hygiene precautions. The program prepares photographic report illustrates the maintenance, cleaning and waste disposal work ([Annex 6-0-9-4](#)).

## **G. Program Management and Regulations**

### **1. Program Management**

#### **1.1 Program Structure**

(including boards, councils, units, committees, etc.)

The management of the Program depends on the different committees and units of the department.

#### **A/ Responsibilities of the Department Chairman**

##### **1) Administrative affairs:**

- 1- To head the department, supervise the organization of its affairs, students' affairs, teaching affairs, research affairs, community services affairs, call upon concerned individuals to attend its sessions, implement its decisions, and send the minutes of its sessions to the College Dean.
- 2- To achieve the goals and policies of the College and the University, and implement the College council's decisions related to the department.
- 3- To supervise the strategic plan of the department and follow up on its implementation.
- 4- To supervise the departments educational, research, administrative, and cultural affairs.
- 5- To coordinate and develop the department's relations, within Jouf University and outside.
- 6- To supervise the enhancement of the quality level and the development of its outputs.

##### **2) Academic Affairs:**

- 1-To implement the regulations of quality, academic accreditation, and evaluation.
- 3-To supervise the students' activities in the department.
- 4-To monitor exams and control the system within the department.
- 5-To supervise the academic development process of the department's programs.
- 6-To supervise the recruitment of faculty members at the department.

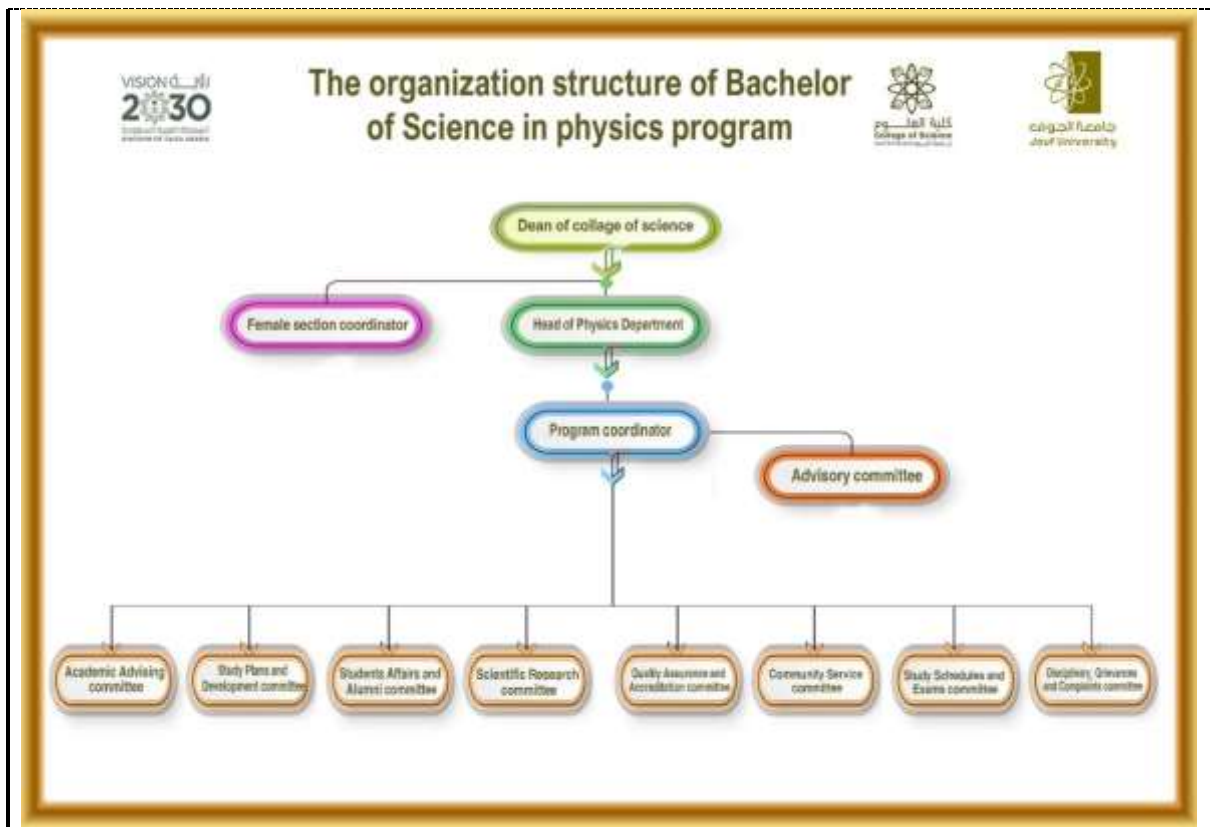
#### **B/ Work Mechanism of the Department Board**

Department Board consists of all Ph.D. (Assistant, Associate, and Full professors staff), issues raised concerning

- *Students' affairs.*
- *Teaching affairs.*
- *Or any developments in work.*

Will be passed from the administration to be presented to the board. In the Department Board meeting, all such issues raised are discussed, and decisions are taken and passed to the relevant recipient through the administration.

The complete organizing structure of the department is as follows



## 1.2 Stakeholders Involvement

Describe the representation and involvement of stakeholders in the program planning and development. (students, professional bodies, scientific societies, alumni, employers, etc.)

Jouf university focus on showing transparency, mutual respect, tolerance, and a spirit of sharing while dealing with the stakeholders. The program aims to

- Participating in achieving the objectives of higher education policy in Saudi Arabia.
- Preparing graduates, forming their educational experiences, and providing them with new skills that help them solve problems and requirements of the society and state.
- Developing students' creative skills to help raise the level of scientific research in line with development materials and energy and meet the needs of the community.
- Preparing specialists to work in research centers and private reserves in the field of physics and work on their development.
- Preparing cadres qualified to teach at the University and schools and work in the domains of physics.

Stakeholder participation is an increasingly accepted component of natural resources and environmental planning processes, stakeholder participation has been approved in study planning (e.g., the new study plan and to change study plan or improvement) we can invite The stakeholder participation one or two times per year. Participation is formed by the students. Students' participation is also shear for the study planning and all program activities. In general, the involvement of the stakeholders in the program is as follows:

✓ Students are engaged during the orientation week by giving awareness about the University; college and department policies; the flow of terms, Course Specifications, and the importance of student surveys. Students are also given feedback from Students Advisory Committee for their improvement and development. Course evaluation surveys are conducted for each course and a Program evaluation survey is conducted by the graduates.

✓ Faculty members are given feedback in Faculty development workshops and

consultations during department councils. Faculty members fill in faculty satisfaction surveys by end of every term, Course review meetings are conducted and teachers provide feedback for improvements. Annual reports by various committees also provide feedback for program planning and development.

✓ Meetings are conducted with alumni and their feedback is taken to improve the program. A database of the student alumni information is maintained for future coordination. Alumni surveys are conducted. Also, meetings are conducted with employers, and surveys to get their feedback for improvement.

✓ Teams from the Deanship of Quality and Academic Accreditation evaluate the program and give suggestions.

✓ Surveys are conducted by the employers and faculty.

✓ Questionnaires are filled by alumni.

Physics program believes that the contribution of society is very important to improve the quality of the alumni. The advisory committee of the Physics program has been formed. The advisory committee is composed of 80% of the professional and society members ([The decision to form the advisory committee for the physics program for the academic year 1443H](#)).

## **2. Program Regulations**

Provide a list of related program regulations, including their link to online version: admission, study and exams, recruitment, appeals and complaint regulations, etc.)

*The physics program is divided into two parts, male and female. Where both parts work in perfect harmony as one unit, where the program committees consist of both parts. The department council is held in the presence of faculty members from both sectors, where the female sector members communicate by phone with the department council hall. Female sector members also share responsibilities and powers.*

### **A. Student admission regulations:**

1. The applicant must have a high school diploma or equivalent from inside outside the Kingdom.
2. The applicant has not passed his secondary school diploma or its equivalent for more than five years.
3. To be medically fit.
4. To successfully pass any test or personal interview set up by the University Council.
5. To submit approval from his work authority to study if he/she works in any governmental or private sector.
6. To fulfill any other conditions decided by the University Council and announced at the time of application.
7. Not be dismissed from Jouf University for academic or disciplinary reasons or any other university for disciplinary reasons.
8. Holders of a Bachelor's degree or its equivalent will not be accepted for obtaining another Bachelor's degree.
9. It is not permissible to accept a student who is registered for another university degree, whether at the same University or not.

These criteria can also be accessed through the Deanship of Admissions and Registration Affairs homepage

([http://dar.ju.edu.sa/forms/regulations\\_JU\\_Final\\_Version-3.pdf](http://dar.ju.edu.sa/forms/regulations_JU_Final_Version-3.pdf)).

### **B. Study regulations:**

Policies and regulations of study in the program including attendance rules, progression

from year to year, academic warnings, academic probation, transfer of credits, academic leave, course registration, program completion, and graduation requirements are following the policies and regulations of the University. Jouf University policies and regulations are outlined in the student handbook/guide "Study and exams operational rules" which also can be accessed through the Deanship of Admissions and Registration Affairs homepage [http://dar.ju.edu.sa/forms/regulations\\_JU\\_Final\\_Version-3.pdf](http://dar.ju.edu.sa/forms/regulations_JU_Final_Version-3.pdf)

### C. Student evaluation:

The students are graded according to the following system:

- **Courses without practical part**
  - a. Midterm exams (Quizzes, assignments) : 60%
  - b. Final exam : 40 %
- **Courses with a practical part**
  - a. Midterm exams (Quiz, assignments) : 40%
  - b. Practical exams : 20%
  - c. Final exam : 40%
- **Practical courses**
  - a. Midterm exams (Quizzes, assignments) : 60%
  - b. Final practical exam : 40 %

#### General exam regulations

The midterm and final exams are written exams.

- The final exam is unified for all sections.
- The final exam is prepared by the course coordinator
- The practical exam usually involves a written part and a lab experiment
- The written exams consist of diverse questions and measure intended learning outcomes.
- Graduation research projects are evaluated (by a temporary committee of Physics department) in Week 14.
- The final exam date is announced by the academic affair rectorate in the beginning of academic session.

#### The grades of students are distributed as follows:

S.N.	Letter Grade	Mark	Grade
1	A+	95-100	Highly excellent
2	A	90-94	Excellent
3	B+	85-89	Highly very good
4	B	80-84	Very good
5	C+	75-79	Highly good
6	C	70-74	Good
7	D+	65-69	Average
8	D	60-64	Passed
9	F	Lower than 60	Failed

### D. Student appeals:



Policies and regulations of student appeal on academic matters including final grade appeal, academic probation, and transfer are outlined in the student handbook/guide "Study and exams operational rules" which also can be accessed through the Deanship of Admissions and Registration Affairs homepage. The policy describes the criteria for appeal, timeline, and personnel involved.

([http://dar.ju.edu.sa/forms/regulations\\_JU\\_Final\\_Version-3.pdf](http://dar.ju.edu.sa/forms/regulations_JU_Final_Version-3.pdf)).

#### **E. Student complaints:**

1. Student complaints/suggestions (academic/non-academic) are handled by a Complaint Processing Committee.
2. The committee is formed of the Dean, vice-dean, and department heads.
3. If the complaint concerns a member of the committee, his/her membership is suspended to avoid alleged conflict of interest.
4. Student complaints/suggestions are handled with complete seriousness, transparency, and indifference irrespective of any personal considerations.
5. Student complaints/suggestions are handled according to the following mechanism:
  - a. The student fills out a complaint form.
  - b. The student submits the form to the coordinator of the Complaint Processing Committee by hand or through email.
  - c. The committee coordinator assigns a serial number to the form and records its number and details in a log book.
    - During committee scheduled meetings, the members scrutinize and discuss the complaint/suggestion to determine:
      - a. The seriousness and relevance of the complaint/suggestion.
      - b. The party (department, unit, administration) to whom the complaint/suggestion should be directed.
      - c. The time frame required to resolve the issues reported in the complaint or implement the suggestions provided by the student.
        - The committee forwards a summary of the complaint/suggestion to the relevant party to take appropriate actions.
        - The committee processes the actions taken by the relevant party and informs the student of the reply of the party and the measures taken to address the student's complaint/suggestion.

The student shall receive a reply to his/her submitted complaint/suggestion from the committee coordinator within 5 working days of the initial submission of the complaint form.

[Admission and Registration](#)

#### **H. Program Quality Assurance**

##### **1. Program Quality Assurance System**

Provide online link to quality assurance manual

Online Link to: [Program Quality System Manual](#)

##### **2. Program Quality Monitoring Procedures**

The physics program adopts Programmatic Key Performance indicators based on National Center for Academic Accreditation and Evaluation (NCAAA) [KPIs-P] that measure the program's performance accurately. Operational KPIs are used by PHSP management to measure the achievement of the program goals. PHSP KPIs are approved by the department and the college councils. In addition to the 17 main KPIs issued by the

NCAAA, the program uses five additional KPIs. The performance indicators committee is responsible for collecting KPIs reports from the different committees of the PHSP. The KPIs report the main performance indicators, additional performance indicators, and benchmarking, which includes an analysis that identifies the main strengths, the improvement plan, and the report on the completion of the improvement plan for the previous year, with evidence of its presentation and approval by the relevant councils. Furthermore, the physics program has a plan for measuring learning outcomes indicators. The assessment is performed on the performance of the students on exams, assignments, projects, presentations, etc., The operational plan committee prepares the annual report of the operational plan which involves the operational KPIs. In total, 18 questionnaires are being distributed to teaching staff, students and stakeholders. A questionnaire was being designed based on the rate of agreement chosen KPIs on a five-point scale (1 .00 –Strongly Disagree, 2 .00 –Disagree, 3 .00 –Not Sure, 4 .00 –Agree, 5 .00 –Strongly Agree) and Analysis of questionnaires are being done using statistical mean, percentages and/ or standard deviation. Any data can be used to measure the achievement in a program. Moreover, Statistics for numbers of students, graduates, teaching staff, citations, and publications. Values of KPIs of the last years were used as an internal benchmark. An internal monitoring system that will regularly measure the effectiveness of the procedures. A self-evaluation system that will examine and report on the quality of programmers and services. Here, various committees perform integration with the director of the administration programs academically and environmentally to control the quality from planning, implementation, monitoring, and to improve.

#### ***Program Quality Monitoring Procedures***

Preparing the program Specification once at the beginning of the plan.

Preparing course Specification, taking into consideration the correlation of course Specification with the mission and goals of the program.

Reviewing the student's regular evaluation of the courses and academic program

Reviewing the graduating students' evaluation of the academic courses and the academic program

Review employers' evaluation of graduates' performance

Attaching faculty members to training courses and workshops to provide them with the necessary teaching skills (introducing them to learning theories and teaching and learning strategies).

Comments and opinions of faculty members.

Students' work (homework, presentation...) checked well to ensure that it is done by students themselves.

Students informed the feedback of their works and their marks to can improve their works.

The internal verification of student achievement standards is carried out, the correction of the students' assignments and tests is reviewed by a faculty member who is not teaching the course from the same program, to make sure that all parts of the work have been awarded grades, and that the grades have been collected Correctly.

The accuracy of the correction Verified on a random sample, as the exams and evaluation committee of the academic program selects a random sample not less than 10% of the courses for each semester from the students' answers, with an emphasis that they include (the highest and lowest grades and failure cases). The names of students are hidden from the papers, photocopied, and then handed over to the reviewing member. Research, projects and oral tests are not re-corrected if more than one faculty member participates in their conduct.

Preparing the course report every semester. Improvements and additions to course

specification can be made based on the feedback from the course report in each semester. Preparing the program report annually, improvements and amendments can be made to the courses and program specification based on the feedback from the program report annually.

At the end of the four years, a self-study report for the program is prepared, and the program's mission, goals, learning outcomes of program to development is reviewed.

**3. Arrangements to Monitor Quality of Courses Taught by other Departments.**

The department will communicate with the concerned departments to ensure that the courses fulfill the needs of Bachelor of physics students. The quality assurance committee will also review the course specifications, course reports, and course evaluation surveys by students of these courses to make sure they comply with the department's needs.

**4. Arrangements Used to Ensure the Consistency between Main Campus and Branches** (including male and female sections)

1. Staff members in both male and female sections share in program council.
2. Staff members in both male and female sections share in program internal specialized committees.
3. Following the same program specification and courses specifications.
4. Standardization of quarterly and final exams for male and female students.
5. Preparing the course report for all the courses in a grouped manner, in which the male and female students are explained every semester.
6. Preparing the program report in a grouped manner in which the male and female students are explained annually.
7. Preparing the performance indicators report for the program.
8. Preparing an improvement plan to achieve Consistency between the two parts. Monitoring and follow-up.

**5. Arrangements to Apply the Institutional Regulations Governing the Educational and Research Partnerships** (if any).

N/A

**6. Assessment Plan for Program Learning Outcomes (PLOs), and Mechanisms of Using its Results in the Development Processes**

1. The program prepares PLO assessment plan every academic year.
2. Learning outcomes are measured at the program level annually by direct method (all kinds of tests) and indirect method (questionnaires).
3. Calculating performance indicators of learning outcomes annually.
4. Based on the results of measuring learning outcomes and performance indicators of learning outcomes, an improvement and development plan that is applied in the following year has been prepared and a report of this plan is written in the program report for the following year.
  - [Procedure and tools for measuring graduate attributes and learning outcomes for the physics program](#)
  - [Assessment Plan and Mechanisms for Physics Program Learning Outcomes \(PLOs\)](#)

**7. Program Evaluation Matrix**

Evaluation Areas/Aspects	Evaluation Sources/References	Evaluation Methods	Evaluation Time
The quality of academic, counseling services	<ul style="list-style-type: none"> <li>▪ Students</li> <li>▪ graduates</li> </ul>	Indirect: Surveys	Indirect: End of academic year

Evaluation Areas/Aspects	Evaluation Sources/References	Evaluation Methods	Evaluation Time
		<u>Direct:</u> - <u>interviews</u>	direct: During of academic year
Effectiveness of teaching & assessment	Students	<u>Indirect:</u> Surveys - students' evaluation of program - student experience <u>Direct:</u> -internal audit report -examination paper review report -internal verification Committee report	<u>Indirect:</u> End of academic year direct: During of academic year
mission and Goals of Physics program	<ul style="list-style-type: none"> <li>▪ Students</li> <li>▪ Program &amp; administrative staff</li> <li>▪ Graduates</li> <li>▪ Employers</li> </ul>	<u>Indirect:</u> Surveys	End of academic year
The quality of student services	Students	<u>Indirect:</u> Surveys	End of academic year
Facilities and equipment	<ul style="list-style-type: none"> <li>▪ Students</li> <li>▪ Program staff</li> <li>▪ administrative staff</li> </ul>	<u>Indirect:</u> Surveys <u>Direct:</u> Interviews	End of academic year
Learning resources	<ul style="list-style-type: none"> <li>▪ Students</li> <li>▪ Program staff</li> </ul>	<u>Indirect:</u> Surveys	End of academic year
Learning outcomes	<ul style="list-style-type: none"> <li>▪ Alumni</li> <li>▪ Employers</li> <li>▪ Students</li> </ul>	<u>Indirect:</u> Surveys <u>Direct:</u> Interviews	End of academic year
Graduation attributes	<ul style="list-style-type: none"> <li>▪ Alumni</li> <li>▪ Employers</li> <li>▪ Students</li> </ul>	<u>Indirect:</u> Surveys <u>Direct:</u> Report	End of academic year
Program leadership	<ul style="list-style-type: none"> <li>▪ Students</li> <li>▪ Program staff</li> <li>▪ administrative staff</li> </ul>	<u>Indirect:</u> Surveys	End of academic year
Conduct a comprehensive periodic evaluation every 5 years	<ul style="list-style-type: none"> <li>▪ Program self-study</li> <li>▪ Program &amp; courses specification and reports</li> </ul>	Report of the External Auditor	Every 5 years

**Evaluation Areas/Aspects** (e.g., leadership, effectiveness of teaching & assessment, learning resources, partnerships, etc.)

**Evaluation Sources** (students, graduates, alumni, faculty, program leaders, administrative staff, employers, independent reviewers, and others (specify))

**Evaluation Methods** (e.g., Surveys, interviews, visits, etc.)

**Evaluation Time** (e.g., beginning of semesters, end of academic year, etc.)

## 8. Program KPIs\*

The period to achieve the target (4) year.

No	KPIs Code	KPIs	Target	Measurement Methods	Measurement Time
1	KPI-P-01	Percentage of achieved indicators of the program operational plan objectives.	100%	Percentage of performance indicators of the operational plan objectives of the program that achieved the targeted annual level to the total number of indicators targeted for these objectives in the same year	The 15 <sup>th</sup> week of the 2 <sup>nd</sup> semester of the academic year
2	KPI-P-02	Students' Evaluation of quality of learning experience in the program	4.5	Average of overall rating of final year students for the quality of learning experience in the program on a five point scale in an annual survey	The 16 <sup>th</sup> week of each semester
3	KPI-P-03	Students' evaluation of the quality of the courses	4.5	Average students overall rating for the quality of courses on a five-point scale in an annual survey	The 16 <sup>th</sup> week of each semester
4	KPI-P-04	Completion rate	80%	Proportion of undergraduate students who completed the program in minimum time in each cohort	The 35 <sup>th</sup> week of the academic year
5	KPI-P-05	First-year student's retention rate	80%	Percentage of first-year undergraduate students who continue at the program the next year to the total number of first-year students in the same year	The 35 <sup>th</sup> week of the academic year
6	KPI-P-06	Students' performance in the professional and/or national examinations	25%	Percentage of students or graduates who were successful in the professional and / or national examinations, or their score average and median (if any)	The 20 <sup>th</sup> week of the academic year
7	KPI-P-07	Graduates' employability and enrolment in postgraduate programs	a: employed: 50% b: enrolled in post graduated programs: 20%	Percentage of graduates from the program who within a year of graduation were: a. employed b. enrolled in postgraduate programs during the first year of their graduation to the total number of graduates in the same year	The 15 <sup>th</sup> week of the academic year
8	KPI-P-08	Average number of students in the class	15 per class	Average number of students per class (in each teaching session/activity: lecture, small group, tutorial, laboratory or clinical session)	The 20 <sup>th</sup> week of the academic year
9	KPI-P-09	Employers' evaluation of the program graduates	4.2	Average of overall rating of employers for the proficiency of the program	The 15 <sup>th</sup> week of The academic year

No	KPIs Code	KPIs	Target	Measurement Methods	Measurement Time
		proficiency.		graduates on a five-point scale in an annual survey	
10	KPI-P-10	Students' satisfaction with the offered services	4.2	Average of students' satisfaction rate with the various services offered by the program (restaurants, transportation, sports facilities, academic advising, ...) on a five-point scale in an annual survey	The 13 <sup>th</sup> week of the academic year
11	KPI-P-11	Ratio of students to teaching staff	8:1	Ratio of the total number of students to the total number of full-time and fulltime equivalent teaching staff in the program	The 4 <sup>th</sup> week of the academic year
12	KPI-P-12	Percentage of teaching staff distribution	Male:60% Female: 40% Assist. P:48 % Assoc. P:40 % Prof.: 12 %	Percentage of teaching staff distribution based on: a. Gender b. Academic Ranking	The 2 <sup>nd</sup> week of the academic year
13	KPI-P-13	Proportion of teaching staff leaving the program	6%	Proportion of teaching staff leaving the program annually for reasons other than age retirement to the total number of teaching staff.	The 30 <sup>th</sup> week of the academic year
14	KPI-P-14	Percentage of publications of faculty members	100%	Percentage of full-time faculty members who published at least one research during the year to total faculty members in the program	The 25 <sup>th</sup> week of the academic year
15	KPI-P-15	Rate of published research per faculty member	5:1	The average number of refereed and/or published research per each faculty member during the year (total number of refereed and/or published research to the total number of full-time or equivalent faculty members during the year)	The 25 <sup>th</sup> week of the academic year
16	KPI-P-16	Citations rate in refereed journals per faculty member	65:1	The average number of citations in refereed journals from published research per faculty member in the program (total number of citations in refereed journals from published research for full-time or equivalent faculty members to the total research published)	The 25 <sup>th</sup> week of the academic year
17	KPI-P-17	Satisfaction of beneficiaries with the learning resources	4.2	Average of beneficiaries satisfaction rate with the adequacy and diversity of learning resources	The 22 <sup>nd</sup> week of the academic year

No	KPIs Code	KPIs	Target	Measurement Methods	Measurement Time
				(references, journals, databases... etc.) on a five-point scale in an annual survey.	
18	KPI-AP-1	Number of research groups in the program	5	Number of research groups in the program	The 20 <sup>th</sup> week of the academic year
19	KPI-AP-2	The number of supported research projects obtained by the program per year	70	The number of supported research projects obtained by the program per year	The 32 <sup>nd</sup> week of the academic year
20	KPI-AP-3	The percentage of students participating in the activities extra-curricular	75%	The percentage number of the program students participating who extra-curricular activities to The total number of students in the program	
21	KPI-AP-4	Employers' satisfaction with the program's target, vision and mission	4.2	Average of overall rating of Employers' satisfaction with the program's target, vision and mission on a five-point scale in an annual survey.	The 22 <sup>nd</sup> week of the academic year
22	KPI-AP-5	Percentage of student graduation projects related to the surrounding community	35%	The number of student graduation projects related to the surrounding community to the total number of the graduation projects of the students.	The 20 <sup>nd</sup> week of the academic year

\* including KPIs required by NCAAA

## I. Specification Approval Data

<b>Council / Committee</b>	<b>PHYSICS DEPARTMENT MEMBERS</b>
<b>Reference No.</b>	<b>DEPARTMENT MINUTES NO. (11/1443)</b>
<b>Date</b>	<b>17/1/2022</b>